

REMARKS

Please reconsider the present application in view of the above amendments and the following remarks. Applicant thanks the Examiner for carefully considering the present application.

I. Disposition of Claims

Claims 1-32 are currently pending in the present application. By way of this reply, claims 1, 3, 5-9, 12, 14, 16, 20-22, and 25 have been amended and claims 10, 11, 13, 23, 24, and 26-32 have been canceled without prejudice or disclaimer.

II. Claim Amendments

Claim 1 has been amended to recite that the method of claim 1 comprises processing one a plurality of cases in response to detection of a branch instruction. Claim 1 has been further amended to recite that the next case corresponds to one of the plurality of cases. No new matter has been added by way of these amendments as support for these amendments may be found, for example, in paragraph [0030] of the present application.

Claims 3 and 6-8 have been amended to be consistent with the amendments to claim 1 and to correct minor informalities. No new matter has been added by way of these amendments.

Claims 9, 12, 22, and 25 have been amended to recite that (i) the determined sequence comprises a set of cases to be selectively processed after processing one of a plurality of cases in response to detection of a branch instruction, and (ii) each case in the

set of cases is one of the plurality of cases. No new matter has been added by way of these amendments as support for these amendments may be found, for example, in paragraph [0030] of the present application.

Claim 14 has been amended to recite that the program of claim 14 processes one a plurality of cases in response to detection of a branch instruction. Claim 14 has been further amended to recite that the next case corresponds to one of the plurality of cases. No new matter has been added by way of these amendments as support for these amendments may be found, for example, in paragraph [0030] of the present application.

Claims 16, 20, and 21 have been amended to be consistent with the amendments to claim 14 and to correct minor informalities. No new matter has been added by way of these amendments.

III. Rejection(s) Under 35 U.S.C § 101

Claims 1 and 14 of the present application were rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. By way of this reply, claims 1 and 14 have been amended to recite steps that occur in response to detection of a branch instruction. Thus, amended claims 1 and 14 now refer to a useful process that is within the scope of 35 U.S.C. § 101. Accordingly, withdrawal of the § 101 rejections of claims 1 and 14 is respectfully requested.

IV. Rejection(s) Under 35 U.S.C § 102

Claims 1-32 of the present application were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,655,122 issued to Wu (hereinafter “Wu”). By way

of this reply, claims 10, 11, 13, 23, 24, and 26-32 have been canceled, and accordingly, the rejections of these claims are now moot. With respect to the remaining claims, for the reasons set forth below, this rejection is respectfully traversed.

The present invention is directed to a technique for improving the prediction rate of dynamically unpredictable branches. *See* Specification, paragraph [0029]. With reference to the exemplary flow process shown in Figure 4 of the present application, in response to detecting a switch (e.g., a branch instruction) 202, one a plurality of cases 204, 206, 208 is selectively processed based on probabilities determined from profile information. Upon selection of one of the plurality of cases 204, 206, 208, a next case (e.g., 205) of a sequence 205, 209, 212 determined from profile information is processed, where the next case corresponds to one of the plurality of cases 204, 206, 208. In other words, the cases 205, 209, 212 in the sequence after a case 204 are each a type of the plurality of cases 204, 206, 208. *See also* Specification, paragraph [0030].

Accordingly, independent claims 1, 9, 12, 14, 22, and 25 have been amended to require that a set of cases processed after the processing of one of a plurality of cases in response to detection of a branch instruction each correspond to one of the plurality of cases.

Wu, in contrast to the present invention, fails at least to disclose the limitations of the claimed invention discussed above. As shown in the flows of branch instructions shown in Figures 5A, 5B, 5C, 6, 10, and 11 of Wu, Wu fails to disclose a flow of instructions in which one of a plurality of instructions are processed in response to detection of a branch instruction, where a set of instructions to be processed after the one of the plurality of instructions correspond to one of the plurality of instructions. In each

of Figures 5A, 5B, 5C, 6, 10, and 11 of Wu, a sequence of branch instructions consist of different branch instructions. However, in the present invention, instructions processed after one a plurality of instructions are processed in response to detection of a branch instruction each correspond to one of the plurality of instructions.

Further, in Figures 5A, 5C, and 6 of Wu, after detection of an initial branch instruction b_0 , only one other branch instruction b_1 (b_{in} in Figure 6 of Wu) is capable of being processed. In other words, there is no plurality of instructions after an initial branch instruction, any one of which may be processed after detection of the initial branch instruction.

In the present Office Action, column 13, lines 23 – 24 of Wu is cited as disclosing “a follow-set” of instructions. With reference to Figure 8 of Wu, this cited portion refers to a linked list 114 of called functions (an element of the linked list 114 is shown in detail as element 118). *See* Wu, column 13, lines 26 – 28; column 13, lines 35 – 36. Those skilled in the art will clearly recognize that such a linked list of called functions is entirely distinct from a set of instructions that are to be processed after one a plurality of instructions is processed in response to detection of a branch instruction, where each instruction in the set of instructions corresponds to one of the plurality of instructions as required by amended independent claims 1, 9, 12, 14, 22, and 25 of the present application.

In view of the above, Wu fails to show or suggest the present invention as recited in independent claims 1, 9, 12, 14, 22, and 25 of the present application. Thus, independent claims 1, 9, 12, 14, 22, and 25 of the present application are patentable over Wu. Dependent claims are allowable for at least the same reasons. Accordingly,

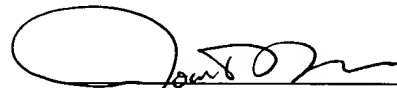
withdrawal of this rejection is respectfully requested.

V. Conclusion

Applicant believes this reply is fully responsive to all outstanding issues and places the present application in condition for allowance. If this belief is incorrect, or other issues arise, the Examiner is encouraged to contact the undersigned or his associates at the telephone number listed below. Please apply any charges not covered, or any credits, to Deposit Account 50-0591 (Reference Number 03226.105001;P5810).

Respectfully submitted,

Date: 7/28/04



Jonathan P. Osha, Reg. No. 33,986
OSHA & MAY L.L.P.
1221 McKinney Street, Suite 2800
Houston, TX 77010

Telephone: (713) 228-8600
Facsimile: (713) 228-8778

70674_1